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10/743,646	12/22/2003	Teresa Grocela Rocha	GE 129438	7273

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BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES

Application Number: 10/743,646
Filing Date: December 22, 2003
Appellant(s): ROCHA ET AL.

Patrick Yoder
For Appellant

EXAMINER'S ANSWER

This is in response to the appeal brief filed 5/22/06 appealing from the Office action mailed 10/21/05.

(1) Real Party in Interest

A statement identifying by name the real party in interest is contained in the brief.

(2) Related Appeals and Interferences

The examiner is not aware of any related appeals, interferences, or judicial proceedings which will directly affect or be directly affected by or have a bearing on the Board's decision in the pending appeal.

(3) Status of Claims

The statement of the status of claims contained in the brief is correct.

(4) Status of Amendments After Final

The appellant's statement of the status of amendments after final rejection contained in the brief is correct.

(5) Summary of Claimed Subject Matter

The summary of claimed subject matter contained in the brief is correct.

(6) Grounds of Rejection to be Reviewed on Appeal

The appellant's statement of the grounds of rejection to be reviewed on appeal is correct.

(7) Claims Appendix

The copy of the appealed claims contained in the Appendix to the brief is correct.

(8) Evidence Relied Upon

5,955,046	OKIMURA	9-1999
6,706,660	PARK	3-2004
6,342,191	KEPNER	1-2002
2003/0118960	BALMER-MILLAR	6-2003

(9) Grounds of Rejection

The following ground(s) of rejection are applicable to the appealed claims:

A. Claims 1-12 and 15 are rejected under 45 U.S.C. 103(a) as being unpatentable over Okimura et al. US 5,955,046 in view of Park US 6,706,660 and Kepner et al. US 6,342,191.

Okimura et al. discloses a catalytic material for removing nitrogen oxides, wherein the catalytic system is comprised of a complex oxide containing gallium, zinc, and alumina (see abstract).

The zinc catalytic component comprises about at least 0-50 mol.% and the gallium catalytic component comprises about at least 0-80 mol.% (see abstract and column 3, lines 55-62). Okimura et al. continues to disclose a methane reductant as well (column 4, lines 50-54). Okimura et al. also discloses wherein

the catalytic material may be formed into a honeycomb shape (col. 9, lines 4-10).

However, Okimura et al. does not disclose a metal oxide catalyst support.

Park teaches a lean nitrogen oxide catalyst, which includes an alumina support material and promoters or catalytic dopants, such as indium, gallium, tin, cobalt, vanadium, silver and combinations thereof (see abstract).

Kepner et al. teaches a catalyst for the reduction of nitrogen oxides, which include combinations of metal oxides including zinc, silver, tungsten, tin, cobalt, as well as indium and gallium, wherein the amount of the catalytic oxide may vary (column 20, lines 6-42). Therefore, it would have been obvious to one of ordinary skill in the art toachieve the desired mole ratios in order to achieve a desired catalyst system for reducing nitrogen oxides.

Therefore, it would have been obvious to one of ordinal skill in the art to utilize a catalyst comprised of gallium and iridium, along with metals such as zinc, tin, and silver on a metal oxide support with respect to the teachings of Okimura et al. in view of Park, because Park teaches a lean nitrogen oxide catalyst, which includes an alumina support material and promoters or catalytic dopants, such as indium, gallium, and

other catalytic metals for the reduction of nitrogen oxides and Kepner et al. teaches wherein it is known in the art to combine metal oxides, which include zinc, silver, tungsten, tin, cobalt, as well as indium and gallium, wherein the amount of the catalytic oxide may vary.

Such modification would have been obvious to one of ordinary skill in the art, because one of ordinary skill in the art would have expected a process for reducing nitrogen oxides with a catalyst comprised of gallium as taught by Park and Kepner et al. to have been similarly useful and applicable to a process for reducing nitrogen oxides using a catalyst comprised of gallium as taught by Okimura et al.

B. Claims 13-14 and 24-25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Okimura '046 in view of Park '660 and Kepner '191, as applied to claims 1-12 and 15 above, and further in view of Balmer-Millar US 2003/0118960.

Applicant claims with respect to claims 13 and 14, wherein the reductant is gasoline.

The teachings of Okimura et al. in view of Park and Kepner et al. have been discussed with respect to claims 1-12 and 15. Okimura et al. discloses wherein methane may be used as a reducing agent, but is silent in regards with respect to the limitations of claims 13 and 14.

However, Balmer-Millar teaches a fuel source of a hydrocarbon base, which includes gasoline and other hydrocarbons, which include alcohols, aldehydes, and ketones (see page 2 and page 4). Furthermore, Balmer-Millar teaches a lean nitrogen oxide catalyst comprised of indium and gallium (see page 2).

Therefore, it would have been obvious to one of ordinary skill in the art to modify the teachings of Okimura in view of Park and Kepner, by utilizing a reducing agent comprised of gasoline for treating nitrogen oxides, since Balmer-Millar teaches a fuel source of a hydrocarbon base, which includes gasoline and other hydrocarbons, which include alcohols, aldehydes, and ketones used for treating nitrogen oxides. Such modification would have been obvious to one of ordinary skill in the art, because one of ordinary skill in the art would have expected a process for treating nitrogen oxides in exhaust gases as taught by Balmer-Millar to have been similarly useful and applicable to a process for reducing nitrogen oxides as taught by Okimura et al. in view of Park and Kepner et al.

Regarding claims 24-25, it also would have been obvious to the ordinary artisan to use at least octane because gasoline and other hydrocarbons are disclosed, which would motivate one of ordinary skill to use octane from the disclosed gasoline.

(10) Response to Argument

It is argued that Okimura discloses a catalytic system comprising… Al, Ga, and Zn. This is not persuasive because Applicant appears to admit that the claim uses open language "comprising", which does not exclude any particular structure, including a spinel structure. Further, Applicant appears to admit that Ga is "an ingredient" of the final product while nonetheless insisting that the disclosed catalyst system "does not include Ga oxide", which appears contradictory. It is noted that the features upon which applicant relies (i.e., any particular structure or a structure that is not a spinel structure) are not recited in the rejected claim(s). Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993). No removal of Ga is disclosed. Thus, the claim is met.

It is argued that the Examiner's assertion was that the lack of a spinel… in the pending claims. This is not persuasive because Applicant appears to admit the claims do not exclude a spinel structure and also because Applicant appears to admit that Ga is "an ingredient" of the final product while nonetheless insisting that the disclosed catalyst system "does not include Ga oxide", which appears contradictory.

It is argued that as known in literature, spinel structures… with a +3 charge. This is not persuasive because no particular charge is claimed. It is noted that the features upon which applicant relies (i.e., a "cation" having a particular "charge") are not recited in the rejected claim(s). Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993). And, in any case, Applicant appears to admit that "gallium is present in the complex oxides described by Okimura". It is again noted that the features upon which applicant relies (i.e., gallium oxide as part of a "main phase", rather than merely part of the catalyst system) are not recited in the rejected claim(s). Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993).

It is argued that Okimura clearly teaches… some specific ranges. This is not persuasive because Okimura discloses the zinc catalytic component comprises about at least 0-50 mol.% and the gallium catalytic component comprises about at least 0-80 mol.% (see abstract and column 3, lines 55-62).

It is argued that the Examiner noted that the claims do not… spinel structure. This is not persuasive because Okimura discloses the zinc catalytic component comprises about at least 0-50 mol.% and the gallium catalytic component comprises about at least 0-80 mol.% (see abstract and column 3, lines 55-62). It is noted that the features upon which applicant relies (i.e., a "basic" oxide as distinct from a "complex" oxide) are not recited in the rejected claim(s). Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993).

It is argued that Kepner describes a catalyst system… unsubstituted adsorbent. This is not persuasive because Applicant appears to admit that the claim uses open language "comprising", which does not exclude a "binder" or "adsorbent", as Applicant appears to suggest. It is noted that the features upon which applicant relies (i.e., a catalyst system which does not have a "binder" or "adsorbent") are not recited in the rejected claim(s). Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993).

It is argued that Park describes a catalyst… promoter or dopant. This is not persuasive because Kepner discloses butanone (Table 17) and Park discloses diesel fuel is known (column 1). One cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981); *In re Merck & Co.*, 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986).

It is argued that Balmer-Miller describes a NOx… the fuel source. This is not persuasive because Applicant appears to admit that gasoline is disclosed as a fuel source, arguing only that Applicant's intended use as a reductant is different. However, a recitation of the intended use of the claimed invention must result in a structural difference between the claimed invention and the prior art in order to patentably distinguish the claimed invention from the prior art. If the prior art structure is capable of performing the intended use, then it meets the claim. And, in any case, Kepner discloses butanone (Table 17) and Park discloses diesel fuel is known (column 1).

(11) Related Proceeding(s) Appendix

No decision rendered by a court or the Board is identified by the examiner in the Related Appeals and Interferences section of this examiner's answer.

For the above reasons, it is believed that the rejections should be sustained.

Respectfully submitted,

Edward M. Johnson

Conferees:

Stanley Silverman

Patrick Ryan

EMJ